



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,701	07/02/2004	Akira Mitsui	0071-0593PUS1	2439

2292 7590 09/28/2005

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
----------

TRUONG, DUC

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/500,701

Applicant(s)

MITSUI ET AL.

Examiner

Duc Truong

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 7/6/15
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's arguments filed 7/27/05 have been fully considered but they are not persuasive. The response submitted by Applicant does not overcome the rejection made by Examiner in the last office action..

Claims 1-11 and 14-26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Braat et al

Applicant argues that the PPE obtained according to the method of Braat has a MW distribution of 2.68 while the MW distribution of the present invention is 1.5-2.5. Note that the Braat reference has been carefully reviewed but the reactants and the cited conditions in Comparative example 5, lines 9-25 in the specification of the present invention, could be not located anywhere in the specification of the Braat reference.

Applicant's arguments are also based on the requirement of claim 16: "adding the poor solvent to precipitate the low MW PPE ".

Note that the reference does disclose the use of a good solvent such as benzene, toluene, xylene---(see col. 5, lines 30-40) in the polymerization reaction, and the use of anti-solvent such as alcohols (see col. 6, line 48) in combination with aqueous solution containing water (see col. 6, lines 37-38). Since the reference use the term "anti-solvent" and the claims use the term "poor solvent" but they are all used to define alcohols and water, then they have the same meaning and functionality in the process. Since the reference disclose all the reactants and the steps of the claimed process including the reaction temperature then the precipitating condition and the claimed MW

Art Unit: 1711

distribution must be considered inherent in the prior art. Further, the reference does disclose the use of a precipitation process (see col. 7, line 63) to have the claimed range viscosity.

Furthermore, the reference does disclose that the process and reaction conditions for the polymerization, such as reaction time, temperature, oxygen flow rate---are modified based on the exact target MW desired. In this particular case, to modify reactants and conditions to have the claimed MW distribution is the level of ordinary skill in the art and would have been obvious in the absence of a showing of unexpected results derive from said selection.

Claims 16-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Daltons et al.

Applicants argue that the reference fails to disclose the feature "adding a poor solvent of said low MW PPE to the PPE solution obtained by said polymerization to precipitate said low MW PPE' in claim 16, nor "precipitating said low MW PPE in the course of the polymerization; wherein the polymerization is a mixture of at least two alcohols" in claim 20.

Said arguments have been fully considered but they are not persuasive since the reference clearly discloses that " the polymerization is carried out in a liquid medium immiscible with water and comprising a mixture of a solvent for the PPE such as benzene, toluene, xylene---(see col. 3, lines 25-29) and a non-solvent such as lower alcohols (see col. 3, line 31). The liquid media will have good solvent ability for the monomers, for the catalyst system and for

Art Unit: 1711

low MW oligomers but be a poor solvent for high MW PPE, causing the polymer to precipitate as it reaches the limiting MW.(see col. 3, lines 16-24) Further, the reference also discloses the steps of the process to precipitate said PPE (see col. 3, lines 53-64). It's clear to see the use of a good and poor solvent in the polymerization to precipitate said PPE, as in the claimed process.

Though the reference does not disclose the use of a mixture of at least two alcohols, the reference does disclose the use of alcohols or a mixture of alcohol and water, having the same functionality with the claimed mixture of at least two alcohols unless Applicants provide evidence to show that they are different.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Daltons et al.

The rejection is maintained for the reasons as stated in the last Office action and for the reasons, as stated above.

Claims 1-11 and 14-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 00/46273.

The rejection is maintained for the reasons as stated in the last office action and for the following reasons:

The following position is taken because the instant claims are read as broadly as possible. Limitation for the specification or Remarks as to how the low MW PPE is produced are not read into the claims. The claims as presented are included in the broad teachings of the reference since they read on a low MW PPE produced from any methods having the claimed characteristics.

Art Unit: 1711

Applicants had presented no factual evidence to show why the product of the reference would not in fact having the claimed properties. The fact that the reference does not disclose said properties is not viewed as a basis to infer that the properties are not possessed by the product of the reference. Therefore, the claimed characteristics must be considered inherent in the prior art.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Truong whose telephone number is 571-272-1081. The examiner can normally be reached on Monday-Friday.

Art Unit: 1711

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

\*\*\*



DUCTRUONG  
PRIMARY EXAMINER